GenCore version 5.1.6

OM protein - protein search, using sw model

Run on: July 17, 2003, 16:09:08 ; Search time 36 Seconds
(without alignments)
895.740 Million cell updates/sec

Title: US-09-978-309A-74
Perfect score: 1195
Sequence: 1 QEKYDSMVQSLEDVTAQFES.....KKKQSETKLQEELNKVLGIK 242

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 908470 seqs, 133250620 residues

Total number of hits satisfying chosen parameters: 908470

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	1193	99.8	725	18	AAW39165	Human RHAMM protei
2	1193	99.8	725	23	ABG60842	Human receptor for
3	1193	99.8	725	23	AAU11436	Human hyaluronic a
4	1105	92.5	351	17	AAW01052	Human umbilical ve
5	917	76.7	630	18	AAW39166	Mouse RHAMM protei
6	914	76.5	606	17	AAR99673	Receptor for hyalu
7	914	76.5	631	17	AAR99675	RHAMM 1-2a isoform
8	913	76.4	631	23	ABG60843	Mouse receptor for
9	913	76.4	794	23	AAU11437	Mouse hyaluronic a
10	893	74.7	713	23	AAU11438	Rat hyaluronic aci
11	891.5	74.6	476	14	AAR43563	Hyaluronan recepto
12	210	17.6	42	22	AAB91998	Fibronectin fragme
13	209	17.5	436	22	AAB95451	Human protein sequ
14	209	17.5	1388	23	AAU79590	Human kinesin moto
15	209	17.5	1388	23	AAE14400	Human kinesin supe
16	191	16.0	795	23	ABB77430	Human tumour marke
17	191	16.0	976	22	AAG66581	Human SCP-1 mutein
18	191	16.0	1411	17	AAW02258	Nucleolar/endosoma
19	189	15.8	1690	22	ABB61144	Drosophila melanog
20	189	15.8	1690	22	ABB61173	Drosophila melanog
21	179.5	15.0	1948	22	ABG21233	Novel human diagno
22	177	14.8	717	21	AAB21231	Tomato LeMPF1. Ly
23	171.5	14.4	336	23	ABB78804	Myosin tail Myosn
24	170	14.2	1388	23	ABB57354	Mouse ischaemic co
25	164	13.7	551	22	AAB93244	Human protein sequ
26	164	13.7	1213	22	AAM40016	Human polypeptide
27	163.5	13.7	1017	22	AAE02246	Domestic mite Bt11
28	163	13.6	561	19	AAW63043	Streptococcus uber
29	162.5	13.6	853	23	ABB93794	Herbicidally activ
30	162.5	13.6	1939	23	ABB77096	Human alpha-myosin
31	162	13.6	1489	22	ABB59948	Drosophila melanog
32	161.5	13.5	1886	19	AAW54241	Rattus norvegicus
33	160.5	13.4	1286	21	AAB43359	Human ORFX ORF3123
34	160.5	13.4	2053	22	AAU03501	Human protein kina
35	160.5	13.4	2053	23	AAE24079	Human MDPK protein
36	160.5	13.4	2054	23	AAE24150	Human kinase (PKIN
37	159	13.3	1312	18	AAW22775	Human RAD50. Homo
38	159	13.3	1312	19	AAW71295	Human homologue of
39	158.5	13.3	875	22	AAE02245	Domestic mite Bt11
40	158.5	13.3	878	22	AAE02242	Domestic mite Bt11
41	158	13.2	1388	19	AAW56475	Protein with Rho p
42	156.5	13.1	1325	18	AAW19540	Male-enhanced anti
43	156.5	13.1	1325	20	AAW94391	Mouse male enhance
44	155	13.0	275	18	AAW20899	H. pylori cytoplas
45	155	13.0	434	23	AAU81500	Chlamydomonas inte

ALIGNMENTS

RESULT 1
AAW39165
ID AAW39165 standard; Protein; 725 AA.
XX
AC AAW39165;
XX
DT 27-APR-1998 (first entry)
XX
DE Human RHAMM protein.
XX
KW Hyaluronan receptor; receptor for hyaluronic acid mediated motility;
KW RHAMM; glycosaminoglycan; binding domain; human; oncogene; treatment;
KW growth factor; cell locomotion disorder; dementia; detection;
KW inflammatory disorder; autoimmune disease; diagnosis; prognosis.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Region 478..480
FT /note= "Region indicated in specification"
FT Region 568..570
FT /note= "Region indicated in specification"
FT Region 589..591
FT /note= "Region indicated in specification"
FT Binding-site 636..646
FT /note= "Hyaluronic acid binding domain"
FT Binding-site 658..667
FT /note= "Hyaluronic binding domain"
XX
PN WO9738098-A1.
XX
PD 16-OCT-1997.
XX

PF 10-APR-1997; 97WO-CA00240.
XX
PR 10-APR-1996; 96GB-0007441.
XX
PA (MANI-) MANITOBA CANCER TREATMENT & RES FOUND.
PA (UYMA-) UNIV MANITOBA.
XX
PI Entwistle J, Turley EA;
XX
DR WPI; 1997-512715/47.
DR N-PSDB; AAV02800.
XX
PT Isolated human receptor for hyaluronic acid mediated motility - used
PT to develop products for treating e.g. tumours, inflammatory
PT disorders, dementia, AIDS, diabetes and auto-immune diseases
XX
PS Claim 16; Page 46; 66pp; English.
XX
CC This sequence represents the human hyaluronan receptor which is is also
CC known as the receptor for hyaluronic acid mediated motility (RHAMM).
CC Hyaluronan is a large glycosaminoglycan that is ubiquitous in the
CC extracellular matrix and whose synthesis has been linked to cell
CC migration, growth and transformation. It interacts with cell surfaces via
CC specific protein receptors, e.g. RHAMM, that mediate many biological
CC effects. The RHAMM/Hyaluronic acid interaction is involved in
CC oncogene-and growth factor-mediated cell locomotion. The products can be
CC used in the treatment of disorders involving cell locomotion, e.g. tumour
CC invasion, birth defects, acute and chronic inflammatory disorders,
CC Alzheimer's and other forms of dementia, including Parkinson's and
CC Huntington's diseases, AIDS, diabetes, autoimmune diseases, corneal
CC dysplasia and hypertrophies, burns, surgical incisions and adhesions,
CC strokes and multiple sclerosis. They can also be used in e.g. CNS and
CC spinal cord regeneration, contraception and in vitro fertilisation and
CC embryo development. The products can also be used in detection, diagnosis
CC and prognosis.
XX
SQ Sequence 725 AA;

Query Match 99.8%; Score 1193; DB 18; Length 725;
Best Local Similarity 99.6%; Pred. No. 3.8e-78;
Matches 241; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
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Db        503 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 562

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
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Db        563 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQLQLDAFEVEKQALLNEHGAAQEQLNKI 622

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        623 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 682

Qy        241 IK 242
              ||
Db        683 IK 684
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RESULT 2
ABG60842
ID ABG60842 standard; Protein; 725 AA.
XX
AC ABG60842;
XX
DT 13-AUG-2002 (first entry)
XX
DE Human receptor for hyalauronan-mediated motility (RHAMM).
XX
KW Tissue disorder; response-to-injury process; cell proliferating;
KW hyaluronic acid; HA; receptor for hyalauronan-mediated motility;
KW RHAMM; inflammatory neurological disorder; Parkinson's disease;
KW Alzheimer's disease; arthritis; multiple sclerosis; gastritis; nephritis;
KW inflammatory dermatosis; psoriasis; inflammatory bowel disease;
KW stenosis; restenosis; cancer; kidney fibrosis; inflammatory lung disease;
KW emphysema; asthma; cystic fibrosis; obesity; obesity related disease;
KW lupus; cardiovascular disease; atherosclerosis; wound; scar; diabetes;
KW tissue transplantation; stroke; inflammatory response; fibrotic response;
KW medical implant; Acquired immunodeficiency syndrome; AIDS; hepatitis;
KW myocardial fibrosis; hepatic fibrosis; chronic cystitis; acute mastitis;
KW septic shock; thyroiditis; retinopathy.
XX
OS Homo sapiens.
XX
PN WO200228415-A1.
XX
PD 11-APR-2002.
XX
PF 05-OCT-2000; 2000WO-IB01534.
XX
PR 05-OCT-2000; 2000WO-IB01534.
XX
PA (TRAN-) TRANSITION THERAPEUTICS & DIAGNOSTICS IN.
XX
PI Turley EA, Cruz TF;
XX
DR WPI; 2002-435298/46.
XX
PT Treating tissue disorder associated with response-to-injury process or
PT proliferating cells in mammals, e.g. fibrosis, inflammation, by
PT administering a compound that alters activity of transition molecules
PT within a cell -
XX
PS Example 30; Fig 50; 215pp; English.
XX
CC The invention describes a method of treating a tissue disorder associated
CC with response-to-injury process or proliferating cells in a patient,
CC comprising administering a polypeptide (I) which binds hyaluronic acid
CC (HA), an antibody which binds one of domains D1-D5 of Receptor for
CC hyalauronan-mediated motility (RHAMM), a polypeptide fragment encoding
CC any of D1-D5 of RHAMM, or a vector which expresses antisense RHAMM,
CC antibodies or a polypeptide fragment. The method is useful for treating a
CC patient with an inflammatory neurological disorder such as Parkinson's
CC disease, Alzheimer's disease, arthritis including rheumatoid arthritis,
CC osteoarthritis, multiple sclerosis, inflammatory dermatosis (psoriasis),
CC inflammatory bowel disease, stenosis or restenosis, cancer, kidney
CC fibrosis, inflammatory lung disease (e.g. emphysema, asthma, cystic
CC fibrosis), obesity or obesity related diseases, lupus, cardiovascular
CC disease (e.g. atherosclerosis), and wound especially surgical excision
CC adhesions, to prevent scar and also for treating or preventing diabetes
CC mellitus. The method is also useful for treating tissue transplantation
CC (e.g. skin grafts), stroke, inflammatory responses or fibrotic response
CC associated with medical implants such as hip implants, vascular wraps and
CC catheters), inflammatory diseases such as AIDS, myocardial and hepatic
CC fibrosis, chronic cystitis, acute mastitis, gastritis, nephritis,
CC hepatitis, septic shock, thyroiditis, and retinopathy. This sequence
CC represents a receptor for hyalauronan-mediated motility protein used in
CC the method of treating a tissue disorder described in the invention.
XX
SQ Sequence 725 AA;

Query Match 99.8%; Score 1193; DB 23; Length 725;
Best Local Similarity 99.6%; Pred. No. 3.8e-78;
Matches 241; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

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Db        443 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 502

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        503 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 562
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Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
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Db        563 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQLQLDAFEVEKQALLNEHGAAQEQLNKI 622

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        623 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 682

Qy        241 IK 242
              ||
Db        683 IK 684
```

RESULT 3
AAU11436
ID AAU11436 standard; Protein; 725 AA.
XX
AC AAU11436;
XX
DT 12-MAR-2002 (first entry)
XX
DE Human hyaluronic acid binding protein RHAMM.
XX
KW Human; hyaluronic acid binding protein; RHAMM; gene therapy;
KW receptor for HA mediated mobility; immunosuppressive; cytostatic.
KW conjugate; rheumatoid arthritis; scleroderma; liver fibrosis; cancer;
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Misc-difference 278
FT /note= "Encoded by GAA"
FT Misc-difference 299
FT /note= "Encoded by AAA"
FT Misc-difference 323
FT /note= "Encoded by AAA"
FT Misc-difference 331
FT /note= "Encoded by CAG"
XX
PN WO200180899-A2.
XX
PD 01-NOV-2001.
XX
PF 20-APR-2001; 2001WO-CA00533.
XX
PR 20-APR-2000; 2000US-198613P.
XX
PA (CANG-) CANGENE CORP.
XX
PI Woloski BMR, Williams AM, Sereda TJ, Wiebe DJ;
XX
DR WPI; 2002-075094/10.
DR N-PSDB; AAS17496.
XX
PT Protein conjugates that selectively target certain tissues and organs
PT useful for treating and preventing various diseases, comprises
PT glucose-aminoglycan-targeting domain conjugated to a therapeutic
PT protein -.
XX
PS Claim 6; Page 115; 121pp; English.
XX
CC The invention relates to a conjugate comprising an hyaluronic acid (HA)
CC -binding protein e.g. RHAMM (receptor of HA mediated mobility) or peptide
CC contiguous with, or coupled to a polypeptide conjugated to a therapeutic
CC agent, and the polynucleotides encoding them. Also included is a method
CC for preparation of the HA-binding protein by inserting a first nucleotide
CC sequence encoding a HA-binding protein directly linked to a second
CC nucleotide sequence encoding a therapeutic protein into a suitable
CC vector, expressing the vector in an acceptable host, purifying conjugate
CC molecule from host or expression medium. The composition is useful for
CC altering in vivo the distribution of a therapeutic agent comprising
CC administering the composition to the animal where conjugate molecule will
CC distribute primarily in tissues and organs containing high levels of
CC endogenous HA and for treating mammal with a disorder where a diseased
CC tissue of the mammal contains high level of HA e.g. rheumatoid
CC arthritis, scleroderma, liver fibrosis and cancer. Lower therapeutic
CC dosages required also translates into lower immunogenicity of the
CC conjugated protein as compared to the native protein. As a result,
CC conjugates improve patient compliance and reduce direct and indirect
CC costs associated with the drug substance and its administration.
CC Conjugates allows for the use, where appropriate, of lower, safer,
CC dosages as compared to the conventional dosage requirements for the
CC unconjugated corresponding therapeutic agent. Conjugate molecules have an
CC increased half-life and potency, resulting in prolonged circulation of
CC the molecule, efficient distribution into the target tissues, and
CC increased bioavailability. The present sequence represents a RHAMM
CC protein.
XX
SQ Sequence 725 AA;

Query Match 99.8%; Score 1193; DB 23; Length 725;
Best Local Similarity 99.6%; Pred. No. 3.8e-78;
Matches 241; Conservative 1; Mismatches 0; Indels 0; Gaps 0;

```
Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
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Db        443 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 502

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
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Db        503 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 562

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
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Db        563 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQLQLDAFEVEKQALLNEHGAAQEQLNKI 622

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
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Db        623 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 682

Qy        241 IK 242
              ||
Db        683 IK 684
```

RESULT 4
AAW01052
ID AAW01052 standard; Protein; 351 AA.
XX
AC AAW01052;
XX
DT 31-JAN-1997 (first entry)
XX
DE Human umbilical vein epithelium-derived hyaluronan receptor.
XX
KW Umbilical; diagnosis; detection; hyaluronan receptor; antibody;
KW cancer; inflammation; angiogenesis; invasive; leukaemia; lymphoma;
KW proliferation; vascularisation.
XX
OS Homo sapiens.
XX
PN WO9628549-A2.
XX
PD 19-SEP-1996.
XX
PF 08-MAR-1996; 96WO-US03193.
XX
PR 10-MAR-1995; 95US-0402217.
XX
PA (INCY-) INCYTE PHARM INC.
XX
PI Hawkins PR, Seilhamer JJ, Wilde CG;
XX
DR WPI; 1996-442863/44.
DR N-PSDB; AAT38304.

```
XX
PT   DNA encoding human hyaluronan receptor - useful to detect
PT   up-regulation of the receptor gene indicative of activated,
PT   angiogenic, inflamed or metastatic cells or tissues
XX
PS   Claim 1; Page 24-25; 32pp; English.
XX
CC   AAW01052 represents the amino acid sequence of a human hyaluronan
CC   receptor (HR) derived from umbilical vein endothelial cells.
CC   Hyaluronan and its receptors are involved in a number of different
CC   functions such as homeostasis, mitosis, cell migration and
CC   differentiation including angiogenesis. DNA encoding HR and
CC   antibodies against it can be used in diagnostic tests to detect
CC   up-regulation of the HR gene, which is indicative of activated,
CC   angiogenic, inflamed or metastatic cells and/or tissues. The HR cDNA
CC   and antibodies may also be used to diagnose conditions such as
CC   invasive leukaemia or lymphoma.
XX
SQ   Sequence   351 AA;

  Query Match             92.5%;  Score 1105;  DB 17;  Length 351;
  Best Local Similarity   98.7%;  Pred. No. 3.7e-72;
  Matches  222;  Conservative    2;  Mismatches    1;  Indels    0;  Gaps    0;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              :|||||||||||||||||||||||||||||||||||||||||| |||||||||||||||||
Db        125 EEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKVAKAGKNAEDVQHQILAT 184

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db        185 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 244

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
              ||||||||||||||||||||||||||||||:||||||||||||||||||||||||||||
Db        245 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQLQLDAFEVEKQALLNEHGAAQEQLNKI 304

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKK 225
              |||||||||||||||||||||||||||||||||||||||||||||
Db        305 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKK 349


RESULT 5
AAW39166
ID   AAW39166 standard; Protein; 630 AA.
XX
AC   AAW39166;
XX
DT   27-APR-1998  (first entry)
XX
DE   Mouse RHAMM protein.
XX
KW   Hyaluronan receptor; receptor for hyaluronic acid mediated motility;
KW   RHAMM; glycosaminoglycan; binding domain; mouse; oncogene; treatment;
KW   growth factor; cell locomotion disorder; dementia; detection;
KW   inflammatory disorder; autoimmune disease; diagnosis; prognosis.
XX
OS   Mus sp.
XX
FH   Key             Location/Qualifiers
FT   Region          279..382
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FT   Binding-site    555..565
FT                   /note= "Hyaluronic acid binding domain"
FT   Binding-site    577..586
FT                   /note= "Hyaluronic acid binding domain"
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PN   WO9738098-A1.
XX
PD   16-OCT-1997.
XX
PF   10-APR-1997;   97WO-CA00240.
XX
PR   10-APR-1996;   96GB-0007441.
XX
PA   (MANI-) MANITOBA CANCER TREATMENT & RES FOUND.
PA   (UYMA-) UNIV MANITOBA.
XX
PI   Entwistle J,  Turley EA;
XX
DR   WPI; 1997-512715/47.
DR   N-PSDB; AAV02801.
XX
PT   Isolated human receptor for hyaluronic acid mediated motility - used
PT   to develop products for treating e.g. tumours, inflammatory
PT   disorders, dementia, AIDS, diabetes and auto-immune diseases
XX
PS   Disclosure; Page 46; 66pp; English.
XX
CC   This sequence represents the mouse hyaluronan receptor which is is also
CC   known as the receptor for hyaluronic acid mediated motility (RHAMM).
CC   Hyaluronan is a large glycosaminoglycan that is ubiquitous in the
CC   extracellular matrix and whose synthesis has been linked to cell
CC   migration, growth and transformation. It interacts with cell surfaces via
CC   specific protein receptors, e.g. RHAMM, that mediate many biological
CC   effects. The RHAMM/Hyaluronic acid interaction is involved in
CC   oncogene-and growth factor-mediated cell locomotion. The products can be
CC   used in the treatment of disorders involving cell locomotion, e.g. tumour
CC   invasion, birth defects, acute and chronic inflammatory disorders,
CC   Alzheimer's and other forms of dementia, including Parkinson's and
CC   Huntington's diseases, AIDS, diabetes, autoimmune diseases, corneal
CC   dysplasia and hypertrophies, burns, surgical incisions and adhesions,
CC   strokes and multiple sclerosis. They can also be used in e.g. CNS and
CC   spinal cord regeneration, contraception and in vitro fertilisation and
CC   embryo development. The products can also be used in detection, diagnosis
CC   and prognosis.
XX
SQ   Sequence   630 AA;

  Query Match             76.7%;  Score 917;  DB 18;  Length 630;
  Best Local Similarity   76.4%;  Pred. No. 2.9e-58;
  Matches  185;  Conservative   19;  Mismatches   38;  Indels    0;  Gaps    0;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||||| ||||: |  ||||||||| :|||| | | |: |||| |||
Db        362 QEKYNDTAQSLRDVTAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 421

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: ||| :| ||| |||||| |||:|||||:|||:||:||||||||::  |
Db        422 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 481

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
              |||||   ||| |||||||||||| |||||| |||||| |||||||||| |||||||
Db        482 TAEKENVMTELTMEINKWRLLYEELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 541

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        542 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 601

Qy        241 IK 242
              |:
Db        602 IR 603


RESULT 6
AAR99673
ID   AAR99673 standard; Protein; 606 AA.
XX
AC   AAR99673;
XX
DT   10-OCT-1996  (first entry)
XX
DE   Receptor for hyaluronic acid mediated motility RHAMM 1.
XX
KW   RHAMM 1; receptor for hyaluronic acid mediated motility;
KW   hyaluronan receptor; cell locomotion; cell proliferation;
KW   breast cancer; therapy.
```

```
XX
OS   Mus sp.
XX
FH   Key             Location/Qualifiers
FT   Modified-site   91..93
FT                   /label= N-glycosylation_site
FT   Modified-site   258..260
FT                   /label= N-glycosylation_site
FT   Modified-site   279..281
FT                   /label= N-glycosylation_site
FT   Modified-site   300..302
FT                   /label= N-glycosylation_site
FT   Modified-site   321..323
FT                   /label= N-glycosylation_site
FT   Modified-site   342..344
FT                   /label= N-glycosylation_site
FT   Modified-site   373..375
FT                   /label= N-glycosylation_site
FT   Modified-site   413..415
FT                   /label= N-glycosylation_site
FT   Domain          532..542
FT                   /label= Hyaluronan_binding_domain-I
FT   Domain          553..562
FT                   /label= Hyaluronan_binding_domain-I
FT   Modified-site   594..596
FT                   /label= N-glycosylation_site
XX
PN   EP721012-A2.
XX
PD   10-JUL-1996.
XX
PF   16-OCT-1995;   95EP-0307310.
XX
PR   14-OCT-1994;   94GB-0020740.
XX
PA   (MANI-) MANITOBA CANCER TREATMENT & RES FOUND.
PA   (UYMA-) UNIV MANITOBA.
XX
PI   Entwistle J,  Turley EA,  Zhang S;
XX
DR   WPI; 1996-310997/32.
DR   N-PSDB; AAT34499;
DR   N-PSDB; AAT34500;
DR   N-PSDB; AAT23423;
DR   N-PSDB; AAT34524.
XX
PT   Receptor for hyaluronic acid-mediated motility protein, and DNA
PT   encoding it  - useful to treat or prevent diseases associated with
PT   the receptor, e.g. breast cancer
XX
PS   Claim 2; Page 40-42; 117pp; English.
XX
CC   RHAMM 1 (AAR99673), or Receptor for Hyaluronic Acid Mediated Motility,
CC   is a hyaluronan receptor protein which is involved in cell locomotion
CC   or motility and cell proliferation and transformation.  Its amino
CC   acid sequence was deduced from a cDNA clone (AAT34499) obtd. from
CC   murine 3T3 cells and a genomic sequence (AAT34500) from a mouse
CC   fibroblast genomic library.  2 Alternative mRNAs for RHAMM 1 were
CC   found, RHAMM 1A (see also AAT34523) and RHAMM 1B (AAT34524), that had
CC   identical translated portions.  Increased expression of RHAMM 1
CC   protein is indicative of a poor prognosis for breast cancer.  The
CC   protein can be used to suppress or control a tumour by modulating
CC   the interaction of cell-associated RHAMM with its ligand.
XX
SQ   Sequence  606 AA;

  Query Match          76.5%;  Score 914;  DB 17;  Length 606;
  Best Local Similarity   76.0%;  Pred. No. 4.5e-58;
  Matches  184;  Conservative   20;  Mismatches   38;  Indels    0;  Gaps    0;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||||| ||||: |  ||||||||| :|||| | | |: |||| |||
Db        338 QEKYNDTAQSLRDVTAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 397

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: ||| :| ||| |||||| |||:|||||:|||:||:||||||||::  |
Db        398 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 457

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
               |||||   ||| ||||||||:||| |||||| |||||| |||||||||| |||||||
Db        458 TAEKENVMTELTMEINKWRLLYDELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 517

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        518 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 577

Qy        241 IK 242
              |:
Db        578 IR 579


RESULT 7
AAR99675
ID   AAR99675 standard; Protein; 631 AA.
XX
AC   AAR99675;
XX
DT   10-OCT-1996  (first entry)
XX
DE   RHAMM 1-2a isoform.
XX
KW   RHAMM 1-2a; receptor for hyaluronic acid mediated motility;
KW   hyaluronan receptor; cell locomotion; cell proliferation;
KW   breast cancer; therapy.
XX
OS   Mus sp.
XX
FH   Key             Location/Qualifiers
FT   Region          55..79
FT                   /note= "exon 2A-encoded region"
XX
PN   EP721012-A2.
XX
PD   10-JUL-1996.
XX
PF   16-OCT-1995;   95EP-0307310.
XX
PR   14-OCT-1994;   94GB-0020740.
XX
PA   (MANI-) MANITOBA CANCER TREATMENT & RES FOUND.
PA   (UYMA-) UNIV MANITOBA.
XX
PI   Entwistle J,  Turley EA,  Zhang S;
XX
DR   WPI; 1996-310997/32.
DR   N-PSDB; AAT34525.
XX
PT   Receptor for hyaluronic acid-mediated motility protein, and DNA
PT   encoding it  - useful to treat or prevent diseases associated with
PT   the receptor, e.g. breast cancer
XX
PS   Claim 8; Page 50-52; 117pp; English.
XX
CC   RHAMM 1-2a (AAR99675) is an alternatively spliced variant of
CC   RHAMM 1 (AAR99673) (receptor for hyaluronic acid mediated
CC   motility), a protein involved in cell locomotion or motility and
CC   cell proliferation and transformation.  It differs from RHAMM 1
CC   by an insertion of 25 amino acids (see also AAR99674) between
CC   amino acids 54 and 55 of RHAMM 1, resulting from an alternatively
CC   spliced exon 2A (AAT34502).  RHAMM 1-2a is the isoform that is
CC   overexpressed in tumours.  Determination of the level of RHAMM
CC   1-2a in a sample can be used to assess the prognosis of a tumour
CC   (esp. breast cancer) patient.  The RHAMM 1-2a protein can also
CC   be used to suppress or control a tumour by modulating the
CC   interaction of cell-associated RHAMM with its ligand.
XX
```

SQ Sequence 631 AA;

Query Match 76.5%; Score 914; DB 17; Length 631;
Best Local Similarity 76.0%; Pred. No. 4.8e-58;
Matches 184; Conservative 20; Mismatches 38; Indels 0; Gaps 0;

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Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||||| ||||: |  ||||||||| :|||| | | |: |||| |||
Db        363 QEKYNDTAQSLRDVTAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 422

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: ||| :| ||| |||||| |||:|||||:|||:||:||||||||::  |
Db        423 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 482

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
              |||||   ||| ||||||||||:||| |||||| |||||| |||||||||||| |||||||
Db        483 TAEKENVMTELTMEINKWRLLYDELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 542

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        543 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 602

Qy        241 IK 242
              |:
Db        603 IR 604
```

RESULT 8
ABG60843
ID ABG60843 standard; Protein; 631 AA.
XX
AC ABG60843;
XX
DT 13-AUG-2002 (first entry)
XX
DE Mouse receptor for hyalauronan-mediated motility (RHAMM).
XX
KW Tissue disorder; response-to-injury process; cell proliferating;
KW hyaluronic acid; HA; receptor for hyalauronan-mediated motility;
KW RHAMM; inflammatory neurological disorder; Parkinson's disease;
KW Alzheimer's disease; arthritis; multiple sclerosis; gastritis; nephritis;
KW inflammatory dermatosis; psoriasis; inflammatory bowel disease;
KW stenosis; restenosis; cancer; kidney fibrosis; inflammatory lung disease;
KW emphysema; asthma; cystic fibrosis; obesity; obesity related disease;
KW lupus; cardiovascular disease; atherosclerosis; wound; scar; diabetes;
KW tissue transplantation; stroke; inflammatory response; fibrotic response;
KW medical implant; Acquired immunodeficiency syndrome; AIDS; hepatitis;
KW myocardial fibrosis; hepatic fibrosis; chronic cystitis; acute mastitis;
KW septic shock; thyroiditis; retinopathy.
XX
OS Mus musculus.
XX
PN WO200228415-A1.
XX
PD 11-APR-2002.
XX
PF 05-OCT-2000; 2000WO-IB01534.
XX
PR 05-OCT-2000; 2000WO-IB01534.
XX
PA (TRAN-) TRANSITION THERAPEUTICS & DIAGNOSTICS IN.
XX
PI Turley EA, Cruz TF;
XX
DR WPI; 2002-435298/46.
XX
PT Treating tissue disorder associated with response-to-injury process or
PT proliferating cells in mammals, e.g. fibrosis, inflammation, by
PT administering a compound that alters activity of transition molecules
PT within a cell -
XX
PS Disclosure; Fig 50; 215pp; English.
XX
CC The invention describes a method of treating a tissue disorder associated
CC with response-to-injury process or proliferating cells in a patient,
CC comprising administering a polypeptide (I) which binds hyaluronic acid
CC (HA), an antibody which binds one of domains D1-D5 of Receptor for
CC hyalauronan-mediated motility (RHAMM), a polypeptide fragment encoding
CC any of D1-D5 of RHAMM, or a vector which expresses antisense RHAMM,
CC antibodies or a polypeptide fragment. The method is useful for treating a
CC patient with an inflammatory neurological disorder such as Parkinson's
CC disease, Alzheimer's disease, arthritis including rheumatoid arthritis,
CC osteoarthritis, multiple sclerosis, inflammatory dermatosis (psoriasis),
CC inflammatory bowel disease, stenosis or restenosis, cancer, kidney
CC fibrosis, inflammatory lung disease (e.g. emphysema, asthma, cystic
CC fibrosis), obesity or obesity related diseases, lupus, cardiovascular
CC disease (e.g. atherosclerosis), and wound especially surgical excision
CC adhesions, to prevent scar and also for treating or preventing diabetes
CC mellitus. The method is also useful for treating tissue transplantation
CC (e.g. skin grafts), stroke, inflammatory responses or fibrotic response
CC associated with medical implants such as hip implants, vascular wraps and
CC catheters), inflammatory diseases such as AIDS, myocardial and hepatic
CC fibrosis, chronic cystitis, acute mastitis, gastritis, nephritis,
CC hepatitis, septic shock, thyroiditis, and retinopathy. This sequence
CC represents a receptor for hyalauronan-mediated motility protein used in
CC the method of treating a tissue disorder described in the invention.
XX
SQ Sequence 631 AA;

Query Match 76.4%; Score 913; DB 23; Length 631;
Best Local Similarity 76.0%; Pred. No. 5.6e-58;
Matches 184; Conservative 20; Mismatches 38; Indels 0; Gaps 0;

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Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||:|| ||||: |  ||||||||| :|||| | | |: |||| |||
Db        363 QEKYNDTAQSLRDVSAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 422

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: ||| :| ||| |||||| |||:|||||:|||:||:|||||||::  |
Db        423 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 482

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
              |||||   ||| ||||||||||||| |||||| |||||| |||||||||||| |||||||
Db        483 TAEKENVMTELTMEINKWRLLYEELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 542

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        543 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 602

Qy        241 IK 242
              |:
Db        603 IR 604
```

RESULT 9
AAU11437
ID AAU11437 standard; Protein; 794 AA.
XX
AC AAU11437;
XX
DT 12-MAR-2002 (first entry)
XX
DE Mouse hyaluronic acid binding protein RHAMM.
XX
KW Mouse; hyaluronic acid binding protein; RHAMM; gene therapy;
KW receptor for HA mediated mobility; immunosuppressive; cytostatic.
KW conjugate; rheumatoid arthritis; scleroderma; liver fibrosis; cancer;
XX
OS Mus musculus.
XX
FH Key Location/Qualifiers
FT Misc-difference 55
FT /note= "Encoded by AAC"
FT Misc-difference 71
FT /note= "Encoded by ACG"
FT Misc-difference 89

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FT                   /note= "Encoded by CAA"
FT   Misc-difference 91
FT                   /note= "Encoded by CAC"
FT   Misc-difference 540
FT                   /note= "Encoded by ACT"
FT   Misc-difference 668
FT                   /note= "Encoded by GAT"
XX
PN   WO200180899-A2.
XX
PD   01-NOV-2001.
XX
PF   20-APR-2001; 2001WO-CA00533.
XX
PR   20-APR-2000; 2000US-198613P.
XX
PA   (CANG-) CANGENE CORP.
XX
PI   Woloski BMR,  Williams AM,  Sereda TJ,  Wiebe DJ;
XX
DR   WPI; 2002-075094/10.
DR   N-PSDB; AAS17497.
XX
PT   Protein conjugates that selectively target certain tissues and organs
PT   useful for treating and preventing various diseases, comprises
PT   glucose-aminoglycan-targeting domain conjugated to a therapeutic
PT   protein  -
XX
PS   Claim 6; Page 116; 121pp; English.
XX
CC   The invention relates to a conjugate comprising an hyaluronic acid (HA)
CC   -binding protein e.g. RHAMM (receptor of HA mediated mobility) or peptide
CC   contiguous with, or coupled to a polypeptide conjugated to a therapeutic
CC   agent, and the polynucleotides encoding them. Also included is a method
CC   for preparation of the HA-binding protein by inserting a first nucleotide
CC   sequence encoding a HA-binding protein directly linked to a second
CC   nucleotide sequence encoding a therapeutic protein into a suitable
CC   vector, expressing the vector in an acceptable host, purifying conjugate
CC   molecule from host or expression medium. The composition is useful for
CC   altering in vivo the distribution of a therapeutic agent comprising
CC   administering the composition to the animal where conjugate molecule will
CC   distribute primarily in tissues and organs containing high levels of
CC   endogenous HA and for treating mammal with a disorder where a diseased
CC   tissue of the mammal contains high level of HA e.g. rheumatoid
CC   arthritis, scleroderma, liver fibrosis and cancer. Lower therapeutic
CC   dosages required also translates into lower immunogenicity of the
CC   conjugated protein as compared to the native protein. As a result,
CC   conjugates improve patient compliance and reduce direct and indirect
CC   costs associated with the drug substance and its administration.
CC   Conjugates allows for the use, where appropriate, of lower, safer,
CC   dosages as compared to the conventional dosage requirements for the
CC   unconjugated corresponding therapeutic agent. Conjugate molecules have an
CC   increased half-life and potency, resulting in prolonged circulation of
CC   the molecule, efficient distribution into the target tissues, and
CC   increased bioavailability. The present sequence represents a RHAMM
CC   protein.
XX
SQ   Sequence   794 AA;

  Query Match             76.4%;  Score 913;  DB 23;  Length 794;
  Best Local Similarity   76.0%;  Pred. No. 7.4e-58;
  Matches  184;  Conservative   20;  Mismatches   38;  Indels    0;  Gaps    0;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||:|| |||| : |  ||||||||| :|||| | | |: |||| |||
Db        526 QEKYNDTAQSLRDVSAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 585

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: |:| :| ||| |||||| |||:|||||:|||:||:||||||||:: |
Db        586 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 645

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
               |||||   ||| |||||||||||||| |||||| |||||| |||||||||||| |||||||
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Db        646 TAEKENVMTELTMEINKWRLLYEELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 705

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        706 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 765

Qy        241 IK 242
              |:
Db        766 IR 767


RESULT 10
AAU11438
ID   AAU11438 standard; Protein; 713 AA.
XX
AC   AAU11438;
XX
DT   12-MAR-2002  (first entry)
XX
DE   Rat hyaluronic acid binding protein RHAMM.
XX
KW   Rat; hyaluronic acid binding protein; RHAMM; gene therapy;
KW   receptor for HA mediated mobility; immunosuppressive; cytostatic.
KW   conjugate; rheumatoid arthritis; scleroderma; liver fibrosis; cancer;
XX
OS   Rattus norvegicus.
XX
PN   WO200180899-A2.
XX
PD   01-NOV-2001.
XX
PF   20-APR-2001; 2001WO-CA00533.
XX
PR   20-APR-2000; 2000US-198613P.
XX
PA   (CANG-) CANGENE CORP.
XX
PI   Woloski BMR,  Williams AM,  Sereda TJ,  Wiebe DJ;
XX
DR   WPI; 2002-075094/10.
DR   N-PSDB; AAS17498.
XX
PT   Protein conjugates that selectively target certain tissues and organs
PT   useful for treating and preventing various diseases, comprises
PT   glucose-aminoglycan-targeting domain conjugated to a therapeutic
PT   protein  -
XX
PS   Claim 6; Page 116-117; 121pp; English.
XX
CC   The invention relates to a conjugate comprising an hyaluronic acid (HA)
CC   -binding protein e.g. RHAMM (receptor of HA mediated mobility) or peptide
CC   contiguous with, or coupled to a polypeptide conjugated to a therapeutic
CC   agent, and the polynucleotides encoding them. Also included is a method
CC   for preparation of the HA-binding protein by inserting a first nucleotide
CC   sequence encoding a HA-binding protein directly linked to a second
CC   nucleotide sequence encoding a therapeutic protein into a suitable
CC   vector, expressing the vector in an acceptable host, purifying conjugate
CC   molecule from host or expression medium. The composition is useful for
CC   altering in vivo the distribution of a therapeutic agent comprising
CC   administering the composition to the animal where conjugate molecule will
CC   distribute primarily in tissues and organs containing high levels of
CC   endogenous HA and for treating mammal with a disorder where a diseased
CC   tissue of the mammal contains high level of HA e.g. rheumatoid
CC   arthritis, scleroderma, liver fibrosis and cancer. Lower therapeutic
CC   dosages required also translates into lower immunogenicity of the
CC   conjugated protein as compared to the native protein. As a result,
CC   conjugates improve patient compliance and reduce direct and indirect
CC   costs associated with the drug substance and its administration.
CC   Conjugates allows for the use, where appropriate, of lower, safer,
CC   dosages as compared to the conventional dosage requirements for the
CC   unconjugated corresponding therapeutic agent. Conjugate molecules have an
CC   increased half-life and potency, resulting in prolonged circulation of
CC   the molecule, efficient distribution into the target tissues, and
```

```
CC   increased bioavailability. The present sequence represents a RHAMM
CC   protein.
XX
SQ   Sequence   713 AA;

  Query Match           74.7%;  Score 893;  DB 23;  Length 713;
  Best Local Similarity   74.0%;  Pred. No. 1.8e-56;
  Matches  179;  Conservative   21;  Mismatches   42;  Indels    0;  Gaps    0;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||    |:| ||||| ||||: |  ||||||||| :|||| |:| |  |||| |||
Db        442 QEKYSDTAQTLRDVTAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKRVEDVQQQILTA 501

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ::: |||  | ||| |||||| |:|:|||||||||:|| ||||||||:|  :
Db        502 ESTNQEYAKVVQDLQNSSTLKEAEIKEITSSYLEKITDLQNQLRQQNEDFRKQLEEEGAK 561

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
                |||    ||| ||||||||||||::|||||| |||||| |||||||||| ||||:||
Db        562 MTEKETAVTELTMEINKWRLLYEELFDKTKPFQQQLDAFEAEKQALLNEHGATQEQLSKI 621

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| ||||:||:| :|| ||:| ||
Db        622 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLAKRKQNELRLQGELDKALG 681

Qy        241 IK 242
              |:
Db        682 IR 683


RESULT 11
AAR43563
ID   AAR43563 standard; Protein; 476 AA.
XX
AC   AAR43563;
XX
DT   05-APR-1994  (first entry)
XX
DE   Hyaluronan receptor.
XX
KW   Hyaluronan binding protein; HA; RHAMM; mediated motility; wound;
KW   healing; diagnosis; treatment; cell locomotion; tumour invasion;
KW   birth defects; inflammatory disorder; Alzheimer's disease; dementia;
KW   Parkinson's diseases; Huntington's disease; AIDS; diabetes; auto;
KW   immune diseases; corneal dysplasia; hypertrophy; surgery; burns;
KW   strokes; multiple sclerosis; depression; schizophrenia; CNJ;
KW   contraception; in vitro fertilisation; embryo development.
XX
PN   WO9321312-A.
XX
PD   28-OCT-1993.
XX
PF   13-APR-1993;   93WO-CA00158.
XX
PR   09-APR-1992;   92GB-0007949.
XX
PA   (MANI-) MANITOBA CANCER TREATMENT & RES FOUND.
PA   (UYMA-) UNIV MANITOBA.
XX
PI   Turley EA;
XX
DR   WPI; 1993-351722/44.
DR   N-PSDB; AAQ51212.
XX
PT   DNA encoding hyaluronan receptor - used to produce proteins and
PT   antibodies for alteration of cell locomotion
XX
PS   Claim 7; Fig 23; 88pp; English.
XX
CC   The sequence is that encoded by a cDNA clone encoding the hyaluronan
CC   receptor (HARC). The sequence was obtd. by screening a 3T3 library in
CC   lambda gt11 with antibodies to HARC.  A clone of 1.9 kb was obtained
CC   and used to rescreen the library to obtain the full length, 2.9 kb
CC   clone.  HA is down regulated in stationary normal cells and is only
CC   expressed in situations where cell motility is desired, e.g. in
CC   wound healing, in response to growth factors and in chemotaxis by
CC   white blood cells.  HA may be used for diagnosis and treatment of
CC   diseases involving cell locomotion, e.g. tumour invasion, birth
CC   defects, acute and chronic inflammatory disorders, Alzheimer;s and
CC   other forms of dementia, AIDS, diabetes, autoimmune diseases, corneal
CC   dysplasias and hypertrophies, burns, surgical incisions and adhesions,
CC   strokes, multiple sclerosis, depression/schizophrenia related to
CC   neuronal growth and pain states involving nerve sprouting; also in CNJ
CC   and spinal cord regeneration, contraception, in vitro fertilisation and
CC   embryo development.
CC   See also AAR46548-51.
XX
SQ   Sequence   476 AA;

  Query Match           74.6%;  Score 891.5;  DB 14;  Length 476;
  Best Local Similarity   75.2%;  Pred. No. 1.4e-56;
  Matches  182;  Conservative   20;  Mismatches   39;  Indels    1;  Gaps    1;

Qy          1 QEKYDSMVQSLEDVTAQFESYKALTASEIEDLKLENSSLQEKAAKAGKNAEDVQHQILAT 60
              ||||:   ||| ||:|| |||| |  ||||||||| :|||| | | |: |||| |||
Db        209 QEKYNDTAQSLRDVSAQLESYKSSTLKEIEDLKLENLTLQEKVAMAEKSVEDVQQQILTA 268

Qy         61 ESSNQEYVRMLLDLQTKSALKETEIKEITVSFLQKITDLQNQLKQQEEDFRKQLEDEEGR 120
              ||:|||| ||: ||| :| ||| |||||| |||:|||||:|||:||:|||||||::  |
Db        269 ESTNQEYARMVQDLQNRSTLKEEEIKEITSSFLEKITDLKNQLRQQDEDFRKQLEEKGKR 328

Qy        121 KAEKENTTAELTEEINKWRLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKI 180
                |||||   ||| ||||| ||| ||| |||||| |||||| |||||||||| |||||||
Db        329 TAEKENVMTELTMEINKWALLY-ELYEKTKPFQQQLDAFEAEKQALLNEHGATQEQLNKI 387

Qy        181 RDSYAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKKQSETKLQEELNKVLG 240
              |||||:|||||||||||||||||||||||||||||||| || |:||:| :|| ||:| ||
Db        388 RDSYAQLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRSQLVKRKQNELRLQGELDKALG 447

Qy        241 IK 242
              |:
Db        448 IR 449


RESULT 12
AAB91998
ID   AAB91998 standard; Peptide; 42 AA.
XX
AC   AAB91998;
XX
DT   22-JUN-2001  (first entry)
XX
DE   Fibronectin fragment and fibrin related peptide SEQ ID NO:1174.
XX
KW   Protection; endogenous therapeutic peptide; peptidase; conjugation;
KW   blood component; modification; succinimidyl; maleimido group; amino;
KW   hydroxyl; thiol; hormone; growth factor; neurotransmitter.
XX
OS   Homo sapiens.
OS   Synthetic.
XX
PN   WO200069900-A2.
XX
PD   23-NOV-2000.
XX
PF   17-MAY-2000; 2000WO-US13576.
XX
PR   17-MAY-1999;   99US-0134406.
PR   10-SEP-1999;   99US-0153406.
PR   15-OCT-1999;   99US-0159783.
XX
PA   (CONJ-) CONJUCHEM INC.
XX
PI   Bridon DP,  Ezrin AM,  Milner PG,  Holmes DL,  Thibaudeau K;
XX
DR   WPI; 2001-112059/12.
```

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XX
PT   Modifying and attaching therapeutic peptides to albumin prevents
PT   peptidase degradation, useful for increasing length of in vivo activity
PT   -
XX
PS   Disclosure; Page 578; 733pp; English.
XX
CC   The present invention describes a modified therapeutic peptide (I)
CC   comprising a therapeutically active amino acid region (III) and a
CC   reactive group (II) (e.g. succinimidyl and maleimido groups) attached to
CC   a less therapeutically active amino acid region (IV), which covalently
CC   bonds with amino/hydroxyl/thiol groups on blood components to form a
CC   peptidase stabilised therapeutic peptide composed of 3-50 amino acids.
CC   (I) are useful for modifying therapeutic peptides e.g. hormones, growth
CC   factors and neurotransmitters, to protect them from peptidase activity
CC   in vivo for the treatment of various disorders. Endogenous therapeutic
CC   peptides are not suitable as drug candidates as they require frequent
CC   administration due to rapid degradation by peptidases in the body.
CC   Modifying and attaching therapeutic peptides to albumin prevents or
CC   reduces the action of peptidases to increase length of activity (half
CC   life) and specificity as bonding to large molecules decreases
CC   intracellular uptake and interference with physiological processes.
CC   AAB90829 to AAB92441 represent peptides which can be used in the
CC   exemplification of the present invention.
XX
SQ   Sequence   42 AA;

  Query Match             17.6%;  Score 210;  DB 22;  Length 42;
  Best Local Similarity   100.0%;  Pred. No. 1.5e-08;
  Matches   42;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy        184 YAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKK 225
              |||||||||||||||||||||||||||||||||||||||||||
Db          1 YAKLLGHQNLKQKIKHVVKLKDENSQLKSEVSKLRCQLAKKK 42


RESULT 13
AAB95451
ID   AAB95451 standard; Protein; 436 AA.
XX
AC   AAB95451;
XX
DT   26-JUN-2001  (first entry)
XX
DE   Human protein sequence SEQ ID NO:17910.
XX
KW   Human; primer; detection; diagnosis; antisense therapy; gene therapy.
XX
OS   Homo sapiens.
XX
PN   EP1074617-A2.
XX
PD   07-FEB-2001.
XX
PF   28-JUL-2000; 2000EP-0116126.
XX
PR   29-JUL-1999;   99JP-0248036.
PR   27-AUG-1999;   99JP-0300253.
PR   11-JAN-2000; 2000JP-0118776.
PR   02-MAY-2000; 2000JP-0183767.
PR   09-JUN-2000; 2000JP-0241899.
XX
PA   (HELI-) HELIX RES INST.
XX
PI   Ota T, Isogai T, Nishikawa T, Hayashi K, Saito K, Yamamoto J;
PI   Ishii S, Sugiyama T, Wakamatsu A, Nagai K, Otsuki T;
XX
DR   WPI; 2001-318749/34.
XX
PT   Primer sets for synthesizing polynucleotides, particularly the 5602
PT   full-length cDNAs defined in the specification, and for the detection
PT   and/or diagnosis of the abnormality of the proteins encoded by the
PT   full-length cDNAs -
XX
PS   Claim 8; SEQ ID 17910; 2537pp + CD ROM; English.
XX
CC   The present invention describes primer sets for synthesising 5602
CC   full-length cDNAs defined in the specification. Where a primer set
CC   comprises: (a) an oligo-dT primer and an oligonucleotide complementary
CC   to the complementary strand of a polynucleotide which comprises one of
CC   the 5602 nucleotide sequences defined in the specification, where the
CC   oligonucleotide comprises at least 15 nucleotides; or (b) a combination
CC   of an oligonucleotide comprising a sequence complementary to the
CC   complementary strand of a polynucleotide which comprises a 5'-end
CC   sequence and an oligonucleotide comprising a sequence complementary to a
CC   polynucleotide which comprises a 3'-end sequence, where the
CC   oligonucleotide comprises at least 15 nucleotides and the combination of
CC   the 5'-end sequence/3'-end sequence is selected from those defined in
CC   the specification. The primer sets can be used in antisense therapy and
CC   in gene therapy. The primers are useful for synthesising polynucleotides,
CC   particularly full-length cDNAs. The primers are also useful for the
CC   detection and/or diagnosis of the abnormality of the proteins encoded by
CC   the full-length cDNAs. The primers allow obtaining of the full-length
CC   cDNAs easily without any specialised methods. AAH03166 to AAH13628 and
CC   AAH13633 to AAH18742 represent human cDNA sequences; AAB92446 to
CC   AAB95893 represent human amino acid sequences; and AAH13629 to AAH13632
CC   represent oligonucleotides, all of which are used in the exemplification
CC   of the present invention.
XX
SQ   Sequence   436 AA;

  Query Match             17.5%;  Score 209;  DB 22;  Length 436;
  Best Local Similarity   24.8%;  Pred. No. 2.8e-07;
  Matches   68;  Conservative   57;  Mismatches  101;  Indels   48;  Gaps    7;

Qy          1 QEKYDSMVQSLEDV-------------TAQFESYKA----LTASEIEDLKLENSSLQEKA 43
              : :|:  :: || |                |::: |        |||| :   :||:
Db        166 KNEYNFKMRQLEHVMDSAAEDPQSPKTPPHFQTHLAKLLETQEQEIEDGRASKTSLEHLV 225

Qy         44 AKAGKNAEDVQHQILATESSNQEYVRMLLDLQ---TKSALKETEIKEITVSFLQKITDLQ 100
               |  :: |    :|| :  :|  : |: |    |: | : :: :|    ||    |
Db        226 TKLNEDREVKNAEILRMKEQLREMENLRLESQQLIEKNWLLQGQLDDIK---RQKENSDQ 282

Qy        101 N-----QLKQQEEDFRKQ----------------LEDEEGRKAEKENTTAELTEEINKW 138
              |     ||| ::|:  |:                ||: :     ||     :|:|: :
Db        283 NHPDNQQLKNEQEESIKERLAKSKIVEEMLKMKADLEEVQSALYNKEMECLRMTDEVERT 342

Qy        139 RLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKIRDSYAKLLGHQNLKQKIK 198
              : |  : : :  : :|:    |::    |    ::|:  : :   ||:||||| |||:
Db        343 QTLESKAFQEKEQLRSKLEEMYEERERTSQEMEMLRKQVECLAEENGKLVGHQNLHQKIQ 402

Qy        199 HVVKLKDENSQLKSEVSKLRCQ---LAKKKQSET 229
              :||:|| || :|  |  ||| :   | :||:||:
Db        403 YVVRLKKENVRLAEETEKLRAENVFLKEKKRSES 436


RESULT 14
AAU79590
ID   AAU79590 standard; Protein; 1388 AA.
XX
AC   AAU79590;
XX
DT   24-SEP-2002  (first entry)
XX
DE   Human kinesin motor protein, HsKif15.
XX
KW   Human; enzyme; cytostatic; neuroprotective; kinesin motor protein;
KW   HsKif15; microtubule stimulated ATPase activity; HsKif15M1A367;
KW   HsKif15M1P401; kinesin; mitotic spindle; microtubule motor; antigen;
KW   therapeutic; diagnosis; cancer; neurological disorder;
KW   vesicular transport; atherosclerosis; tumour; abnormal wound healing;
KW   inflammatory disorder; immune disorder; rheumatoid arthritis;
KW   ocular angiogenic disease; glaucoma; cardiovascular disease;
KW   hypertension; diastolic dysfunction; fungal disease; aspergillosis.
XX
OS   Homo sapiens.
```

XX
PN US6391613-B1.
XX
PD 21-MAY-2002.
XX
PF 27-NOV-2000; 2000US-0723219.
XX
PR 04-JUN-1999; 99US-137423P.
PR 17-MAY-2000; 2000US-0572191.
XX
PA (CYTO-) CYTOKINETICS INC.
XX
PI Beraud C, Sakowicz R, Wood KW;
XX
DR WPI; 2002-498776/53.
DR N-PSDB; ABK86978.
XX
PT New nucleic acid encoding a human kinesin motor protein designated
PT HsKif15 which has microtubule stimulated ATPase activity, for
PT diagnosing and treating cancer, neurological disorders and disorders of
PT vesicular transport -
XX
PS Claim 1; Fig 2; 21pp; English.
XX
CC The invention discloses an isolated nucleic acid encoding a human kinesin
CC motor protein, HsKif15, which has microtubule stimulated ATPase activity,
CC and two truncated versions, HsKif15M1A367 and HsKif15M1P401, retaining
CC the amino terminus. HsKif15, a member of the kinesin superfamily, has
CC been found to be essential for mitotic spindle formation. The predicted
CC structure comprises an amino-terminal kinesin-like microtubule "motor"
CC domain. The polynucleotides and polypeptides may be used therapeutically
CC to diagnose and prevent or treat cancer, neurological disorders and
CC disorders of vesicular transport. Examples of the conditions that can be
CC treated include atherosclerosis, tumours, abnormal wound healing,
CC inflammatory and immune disorders (such as rheumatoid arthritis), ocular
CC angiogenic disease (such as glaucoma), cardiovascular disease (such as
CC hypertension), diastolic dysfunction and fungal disease (such as
CC aspergillosis). The polynucleotides and polypeptides may also be used to
CC screen for modulators of HsKif15 and raise antibodies. The sequence
CC presented is the human kinesin motor protein, HsKif15.
XX
SQ Sequence 1388 AA;

Query Match 17.5%; Score 209; DB 23; Length 1388;
Best Local Similarity 24.8%; Pred. No. 1.1e-06;
Matches 68; Conservative 57; Mismatches 101; Indels 48; Gaps 7;

```
Qy          1 QEKYDSMVQSLEDV------------TAQFESYKA----LTASEIEDLKLENSSLQEKA 43
              : :|:  :: || |              |::: |       |||| :   :||:
Db       1118 KNEYNFKMRQLEHVMDSAAEDPQSPKTPPHFQTHLAKLLETQEQEIEDGRASKTSLEHLV 1177

Qy         44 AKAGKNAEDVQHQILATESSNQEYVRMLLDLQ---TKSALKETEIKEITVSFLQKITDLQ 100
               |  :: |  . :|| :   :|  : |: |    |: | : :: :|    |     |
Db       1178 TKLNEDREVKNAEILRMKEQLREMENLRLESQQLIEKNWLLQGQLDDIK---RQKENSDQ 1234

Qy        101 N-----QLKQQEEDFRKQ----------------LEDEEGRKAEKENTTAELTEEINKW 138
              |     ||| ::|: :|:                ||: :    ||     :|:|: :
Db       1235 NHPDNQQLKNEQEESIKERLAKSKIVEEMLKMKADLEEVQSALYNKEMECLRMTDEVERT 1294

Qy        139 RLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKIRDSYAKLLGHQNLKQKIK 198
              : |  : : : :  : :|:   |::   |    ::|:  : :  ||:|||| |||:
Db       1295 QTLESKAFQEKEQLRSKLEEMYEERERTSQEMEMLRKQVECLAEENGKLVGHQNLHQKIQ 1354

Qy        199 HVVKLKDENSQLKSEVSKLRCQ---LAKKKQSET 229
              :||:|| || :|  |  ||| :   | :||:||:
Db       1355 YVVRLKKENVRLAEETEKLRAENVFLKEKKRSES 1388
```

RESULT 15
AAE14400
ID AAE14400 standard; Protein; 1388 AA.
XX
AC AAE14400;

XX
DT 26-MAR-2002 (first entry)
XX
DE Human kinesin superfamily microtubule motor protein, HsKif15.
XX
KW Human; kinesin superfamily; microtubule motor protein; HsKif15; ATPase;
KW adenosine triphosphatase; mitotic spindle; cancer; neurological disorder;
KW vesicular transport; medicinal; veterinary; agricultural.
XX
OS Homo sapiens.
XX
FH Key Location/Qualifiers
FT Domain 32..391
FT /label= Motor_domain
XX
PN WO200188118-A1.
XX
PD 22-NOV-2001.
XX
PF 17-MAY-2001; 2001WO-US16300.
XX
PR 17-MAY-2000; 2000US-0572191.
XX
PA (CYTO-) CYTOKINETICS INC.
XX
PI Beraud C, Sakowicz R, Wood KW;
XX
DR WPI; 2002-089854/12.
DR N-PSDB; AAD23970.
XX
PT New isolated kinesin superfamily microtubule motor protein, HsKif15,
PT useful for the diagnosis, treatment, or prevention of cancer,
PT neurological disorders, and disorders of vesicular transport -
XX
PS Claim 11; Fig 2; 70pp; English.
XX
CC The present sequence is human kinesin superfamily microtubule motor
CC protein, HsKif15. The motor protein shows microtubule stimulated
CC adenosine triphosphatase (ATPase) activity and microtubule binding
CC activity. The protein is essential for mitotic spindle formation.
CC The HsKif15 polypeptide and polynucleotide are useful for the diagnosis,
CC treatment or prevention of cancer, neurological disorders and disorders
CC of vesicular transport. The polypeptide and polynucleotide are also
CC useful in assays for identifying HsKif15 modulators, and in medicinal,
CC veterinary, agricultural and research based applications.
XX
SQ Sequence 1388 AA;

Query Match 17.5%; Score 209; DB 23; Length 1388;
Best Local Similarity 24.8%; Pred. No. 1.1e-06;
Matches 68; Conservative 57; Mismatches 101; Indels 48; Gaps 7;

```
Qy          1 QEKYDSMVQSLEDV------------TAQFESYKA----LTASEIEDLKLENSSLQEKA 43
              : :|:  :: || |              |::: |       |||| :   :||:
Db       1118 KNEYNFKMRQLEHVMDSAAEDPQSPKTPPHFQTHLAKLLETQEQEIEDGRASKTSLEHLV 1177

Qy         44 AKAGKNAEDVQHQILATESSNQEYVRMLLDLQ---TKSALKETEIKEITVSFLQKITDLQ 100
               |  :: |  . :|| :   :|  : |: |    |: | : :: :|    |     |
Db       1178 TKLNEDREVKNAEILRMKEQLREMENLRLESQQLIEKNWLLQGQLDDIK---RQKENSDQ 1234

Qy        101 N-----QLKQQEEDFRKQ----------------LEDEEGRKAEKENTTAELTEEINKW 138
              |     ||| ::|: :|:                ||: :    ||     :|:|: :
Db       1235 NHPDNQQLKNEQEESIKERLAKSKIVEEMLKMKADLEEVQSALYNKEMECLRMTDEVERT 1294

Qy        139 RLLYEELYNKTKPFQIQLDAFEVEKQALLNEHGAAQEQLNKIRDSYAKLLGHQNLKQKIK 198
              : |  : : : :  : :|:   |::   |    ::|:  : :  ||:|||| |||:
Db       1295 QTLESKAFQEKEQLRSKLEEMYEERERTSQEMEMLRKQVECLAEENGKLVGHQNLHQKIQ 1354

Qy        199 HVVKLKDENSQLKSEVSKLRCQ---LAKKKQSET 229
              :||:|| || :|  |  ||| :   | :||:||:
Db       1355 YVVRLKKENVRLAEETEKLRAENVFLKEKKRSES 1388
```

Search completed: July 17, 2003, 16:10:51
Job time : 37 secs